

Claims

*Sub a1* 1. Apparatus for protective guarding, said guarding comprising a number of components joined together to form the guarding structure, at least some of said components joined together using one or more clamping devices and characterised in that the clamping device includes a body portion having locations for the location of a base component, therewith securing means for engaging the body portion with the base component and one or more location means for the location of at least one further component therewith.

2. Apparatus according to claim 1 characterised in that a number of location means are provided at spaced intervals on the clamping device such that the one or more further components can be located on said clamping device.

3. Apparatus according to claim 2 characterised in that the provision of a plurality of location means allows multi-directional clamping of components therewith.

4. Apparatus according to claim 1 characterised in that when a plurality of location means are provided, the component secured thereto depend radially from the clamping device.

5. Apparatus according to claim 1 characterised in that the clamping device is fitted to the base component and the user can choose a location means on the device for the location of a further component such that it depends in a radial direction suitable for the user's guarding requirements.

6. Apparatus according to claim 1 characterised in that if the guarding configuration requirements change over time, the user

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can use more or different location means on the clamping device for the joining of or removal of components with the device, thereby allowing modification of the guarding accordingly.

7. Apparatus according to claim 1 characterised in that the clamping device location means comprise a channel having at least a first open end.

8. Apparatus according to claim 7 characterised in that an entrance and/or exit of the channel is/are shaped to aid location of at least a portion of a component therewith.

9. Apparatus according to claim 8 characterised in that the entrance and/or exit of the channel is/are provided at an angle of approximately 45 degrees relative to the channel.

10. Apparatus according to claim 1 characterised in that the location means protrude outwardly from the body portion of the clamping device.

11. Apparatus according to claim 1 characterised in that the location means are defined within the body portion of the clamping device.

12. Apparatus according to claim 1 characterised in that the location means are joined to the body portion of the clamping device.

13. Apparatus according to claim 1 characterised in that the base component location is an aperture defined by the body portion with first and second open ends and the base component passes through said open ends and is secured to the body portion.

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14. Apparatus according to claim 1 characterised in that the aperture defined by the body portion has a first open end and a second closed end.

15. Apparatus according to claim 1 characterised in that the securing means includes two spaced apart substantially parallel members communicating with the body portion of the device.

16. Apparatus according to claim 15 characterised in that a bolt or other means passes through the securing members and tightening of the bolt with a nut brings the two securing members together, thus adjusting the size of the location defined in the body portion for the base component and engaging the same in the clamping device..

17. Apparatus according to claim 1 characterised in that the clamping device includes four location means, each spaced at 90 degrees to adjacent location means.

18. Apparatus according to claim 1 characterised in that the base component is a rod to which further components are joined therewith using the clamping device.

19. Apparatus according to claim 1 characterised in that the further components located with the location means are guard panels.

20. Apparatus according to claim 1 characterised in that a cover is provided to protect the clamping device and the base component when the two are secured together.

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21. A clamping device for clamping together two or more components, to form machinery guarding, said clamping device including a body portion defining a location for the engagement of a base component and securing means for securing the body portion to the base component and characterised in that the device includes location means for the location of at least one further component therewith.

22. A device according to claim 21 characterised in that the location means are radially spaced on the device and the at least one further component, when located with the same, depends radially from the clamping device.

23. A device according to claim 21 characterised in that the clamping device forms part of a hinge arrangement for use with a door.

24. A device according to claim 21 characterised in that the clamping device forms part of a sliding arrangement for a slidable door.

25. Modular guarding apparatus for machinery, said guarding apparatus comprising a number of base components spaced apart and a series of components in the form of panels located between and secured to the base components by clamping devices, said clamping devices including a location to allow the same to be engaged with the base component and a series of spaced location means with which said panel components can be selectively engaged.

26. Modular guarding apparatus for machinery according to claim 25 characterised in that the location means on the clamping device are angularly spaced such that the panel

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component can be selectively fitted to one of the same to define the angle of the panel component with respect to the base component.

27. Modular guarding apparatus for machinery according to claim 25 characterised in that a plurality of panel components are attached to the clamping devices.

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